

Machine Id

Component Diesel Engine Fluid SHELL ROTELLA T 10W30 (--- QTS)

SHELL RUIELLA I IUW30 (QIS)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		WC0909693		
	Sample Date		Client Info		22 May 2024		
	Machine Age	mls	Client Info		457058		
	Oil Age	mls	Client Info		457058		
	Filter Age	mls	Client Info		457058		
	Oil Changed		Client Info		Changed		
	Filter Changed		Client Info		Changed		
	Sample Status				NORMAL		
WEAR	Iron	ppm	ASTM D5185m	>100	15		
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1		
	Nickel	ppm	ASTM D5185m	>4	<1		
	Titanium	ppm	ASTM D5185m		<1		
	Silver	ppm	ASTM D5185m	>3	0		
	Aluminum	ppm	ASTM D5185m	>20	1		
	Lead	ppm	ASTM D5185m	>40	19		
	Copper	ppm	ASTM D5185m	>330	2		
	Tin	ppm	ASTM D5185m	>15	1		
	Vanadium	ppm	ASTM D5185m		<1		
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185m		4		
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m		6		
	Fuel		WC Method		<1.0		
	Water		WC Method	>0.2	NEG		
	Glycol		WC Method		NEG		
	Soot %	%	*ASTM D7844		0.3		
	Nitration	Abs/cm	*ASTM D7624	>20	9.3		
	Sulfation	Abs/.1mm	*ASTM D7415		22.3		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
	Appearance	scalar	*Visual	NORML	NORML		
	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
FLUID CONDITION	Sodium	ppm	ASTM D5185m		1		
	Boron	ppm	ASTM D5185m	269	122		
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m	200	0		
	Molybdenum	ppm	ASTM D5185m	0	17		
	Manganese	ppm	ASTM D5185m	0	0		
	Magnesium	ppm	ASTM D5185m	20	151		
	Calcium	ppm	ASTM D5185m	1521	2027		
	Phosphorus	ppm	ASTM D5185m		1071		
	Zinc	ppm	ASTM D5185m		1243		
	Sulfur	ppm	ASTM D5185m	000	3762		
	Outlation	ppm		05	10.0		

Oxidation

Visc @ 100°C cSt

Abs/.1mm *ASTM D7414 >25

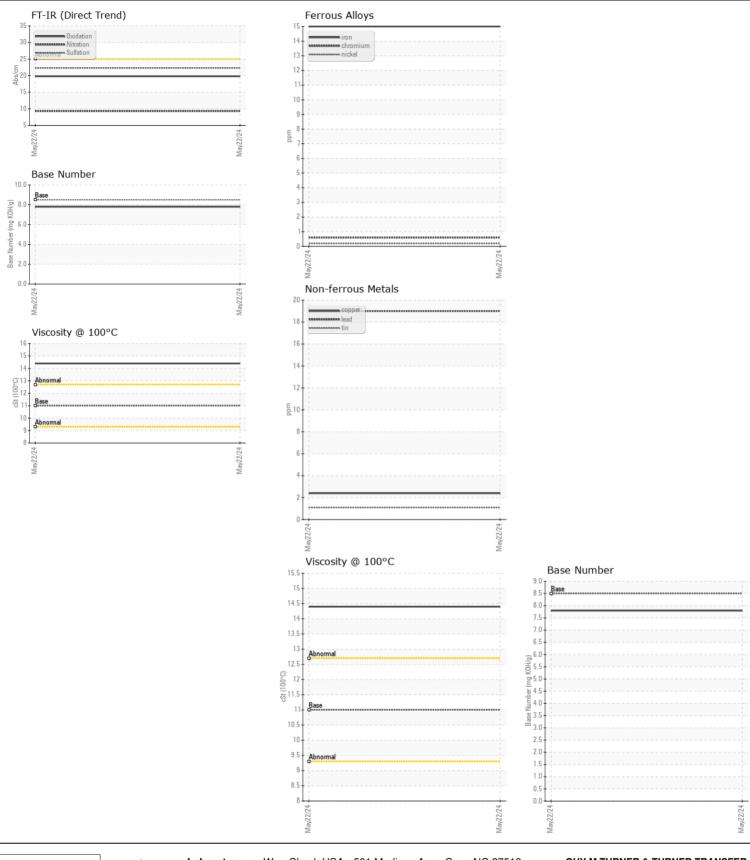
ASTM D445 11.0

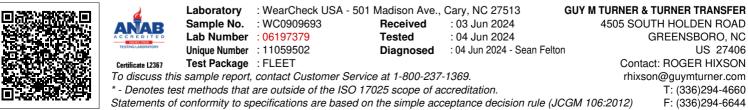
Base Number (BN) mg KOH/g ASTM D2896 8.5

19.8

7.8

14.4





Contact/Location: ROGER HIXSON - GUYGRE Page 2 of 2